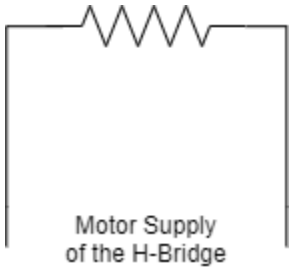
Current Calibration Procedures

In order to build a mathematical model between the current that passed on the h-bridge and the current feedback voltage that needs to be measured from the microcontroller, one should follow the instructions below;

- Students should build the simple circuit with a resistor.



- Students should supply the circuit with the output of the motor of the given h-bridge circuit. The maximum voltage on the supply should be around 10 Volts (%X_3 PWM at the table below). Students should choose the resistor value as if the maximum current should be around 2 amperes**.
- Students should collect data at three different voltage levels. Also, it is important to note the offset value of the current feedback voltage (power supply with 0 volt). The corresponding PWM values should be calculated and the following table should be filled.

	%0 PWM	%X_1 PWM	%X_2 PWM	%X_3 PWM
Measured Current (A)	0			
Analog Value in Microcontroller				
Feedback Voltage (V)				

- Students should build the mathematical model between the actual current and the analog feedback voltage.

** Resistor will drain too much current, so it is important to have shunt resistor with high power (at least 10 Watt).